

An On-line Platform for Sharing Expertise and Good Practice in University Chemistry Teaching

Natasa Brouwer¹, Bill Byers², Iwona Maciejowska³, and Anthony Smith⁴

¹ *University of Amsterdam, The Netherlands*

² *Ulster University, United Kingdom*

³ *Jagiellonian University in Krakow, Poland*

⁴ *Ecole Supérieure de Chimie Physique Electronique de Lyon, France*

Email: natasa.brouwer@uva.nl

Only a fraction of teaching innovation is ever reported in the education research literature or presented at conferences on university chemistry teaching and learning. In fact, very few European lecturers establish any contact with colleagues from other institutions to discuss their approaches to teaching. A wealth of experience and expertise clearly exists, but tends never to be shared and remains in isolation. Sharing is surely important if we are to inspire lecturers to try new teaching methods, to improve knowledge about teaching thus improving the quality of university teaching, and last but not least it is crucial for supporting newly appointed lecturers in developing expertise in effective teaching.

Networks can, of course, play an important role in knowledge exchange. The European Chemistry Thematic Network (ECTN) was formed in 1996 with the aim of providing a forum for the development of university chemistry education and training in Europe and thereby to seek to improve quality over a European dimension (see ECTN web portal: <http://www.ec2e2n.net/>), as part of the European Community Socrates-Erasmus programme. ECTN, which evolved to incorporate chemical engineering in 2009 now, consists of some 120 universities and professional bodies, mainly from Europe but also includes a number of institutions from other continents. A range of innovations, relating to the teaching dimension of university chemistry and the professional development of lecturers have been developed over the past 20 years through the work of over 40 multinational working groups. A wide range of knowledge and expertise has been widely shared and disseminated e.g. via ECTN publications and the ECTN web portal to help improve the quality of university teaching throughout Europe. However, much of the personal teaching experience and expertise possessed by individuals remains unshared.

In 2013 the Working Group ‘Towards Excellence in School and University Teaching’ (www.ec2e2n.net/2/wp01) decided to develop a database of ‘Expertise in University Chemistry Teaching’ to facilitate the sharing of knowledge and expertise about university chemistry teaching and to functionally connect expertise to the people having it. The working group identified 15 topics as particularly relevant to teaching and learning in university chemistry courses and further divided each of these into a number of sub-topics. Next, the working group started to collect brief descriptors for these topics and sub-topics and invited chemistry lecturers, not only those within the network but also those who are not members, to submit personal profiles and share their knowledge and expertise with this community. The database is hosted on the existing network knowledge platform Starfish, at the University of

Amsterdam. Starfish is based on the TPACK model (Mishra and Koehler, 2006) which connects the technological, pedagogical and content knowledge that is needed for sound contemporary teaching design.

To date the database contains files for:

- a) 69 university chemistry and chemical engineering educators (lecturers and other university teaching staff) who have added their personal profiles presenting details of their experience and areas of expertise in teaching and learning chemistry.
- b) more than 40 short descriptors for topics considered important for the teaching and learning of chemistry and chemical engineering at university level, which can be accessed through the web site <http://starfish.innovatievooronderwijs.nl/information/395/>. The descriptions are all linked to lecturers with specific relevant expertise, who are willing to help others and answer questions about their own teaching practice, partake in discussions or even consider entering into advisory or cooperative arrangements.

The working group “Towards Excellence in School and University Teaching” has thus developed a core which can grow further to produce a strong university chemistry teaching knowledge-sharing network. All university chemistry educators are warmly invited to submit a personal profile and to join the Expertise in University Chemistry Teaching community by sharing their expertise and experiences in teaching and to discuss university chemistry teaching with peers. Visit the platform to learn or to get inspired whenever you wish.

The lecture will discuss and demonstrate the database.

References

- European Chemistry and Chemical Engineering Education Network, <http://www.ec2e2n.net/> (last visited May 5 2015).
- Working Group ‘Towards Excellence in School and University Teaching’ <http://www.ec2e2n.net/2/wp01> (last visited 5 My 2015)
- Mishra, P., & Koehler, M. J. (2006). ‘Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge.’ Teachers College Record, 108(6), 1017–1054. www.tpack.org
- Starfish, About Starfish: <http://starfish.innovatievooronderwijs.nl/glossary/340/> last visited May 5, 2015).
- Expertise in Chemistry Teaching – ECTN Database on Starfish and personal profile request <http://starfish.innovatievooronderwijs.nl/information/77/>, (last visited May 5 2015).
- List of topics relevant to university chemistry teaching <http://starfish.innovatievooronderwijs.nl/information/395/> (last visited May 5 2015).